INDEX

A

PAGE

ADAMS, N. D., Discussion of Experiments to Determine Heating Effect Factor.. 504

ADLER, A. A., Discussions on Sizing Pipes and Orifices for Gravity Hot Water Heating Systems 445
Flow of Steam Through Orifices into Radiators..... 388

Airation of Industrial Buildings, Predetermining the, by W. C. RANDALL AND E. W. CONOVER 605
Discussion 617

Air Conditioning as Applied to Furniture, Fixtures, and Other Interior Woodwork, by D. R. BREWSTER..... 131
Discussion 139

Air Conditioning for Railway Passenger Cars, by A. H. CANDEE..... 161
Discussion 175

Air Conditioning in the Bakery, by W. L. FLEISHER..... 141
Discussion 159

Air Conditioning Problems, Heat and Moisture Losses from Men at Work and Application to, by F. C. HOUGHTEN, W. W. TEAGUE, W. E. MILLER AND W. P. YANT..... 541
Discussion 564

Air Conditions and Their Relation to Health, Technical Advisory Committee on 17

Air Conditions and Their Relation to Living Comfort, Technical Advisory Committee on 360

Air Infiltration Through Double-Hung Wood Windows, by G. L. LARSON, D. W. NELSON AND R. W. KUBASTA..... 571
Discussion 600

Air Leakage Through Various Forms of Building Construction, by F. C. HOUGHTEN, CARL GUTBERLET AND C. A. HERBERT..... 177
Discussion 185

Air Pollution from the Engineer's Standpoint, by H. B. MELLER..... 217
Discussion 228

Air Spaces Bounded by Bright Metallic Surfaces, Insulating Effect of Successive, L. W. SCHAD 285
Discussion 296

ANDEREG, F. O., Discussion of Air Pollution from the Engineer's Standpoint.... 229

Annual Meeting, 1931, 37th..... 1

ASHLEY, C. M., Discussion of Some Studies on the Absorption of Noise in Ventilating Ducts 127

Atmospheric Dust and Air Cleaning Devices, Technical Advisory Committee on 358

Atmospheric Dust and Smoke, Technical Advisory Committee on..... 17

B

BADGETT, W. H., AND GIESECKE, F. E., Friction Heads in One-Inch Standard Cast-Iron Tees 395
Discussion 401

Bakery, Air Conditioning in the, by W. L. FLEISHER..... 141
Discussion 159

BELING, E. H., Discussion of The Measurement of the Flow of Air Through Registers and Grilles..... 628

BERNHARDT, M. A., Discussion of Sizing Pipes and Orifices for Gravity Hot Water Heating Systems..... 443

BERRY, C. H., Discussion of Air Pollution from the Engineer's Standpoint..... 230

PAGE

BEVINGTON, W. C., Discussion of Welded Piping for Building Heating Systems 212
BOLSINGER, R. C., Discussions on Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam 46
Heating Effect of Radiators 63
Steam Condensation an Inverse Index of Heating Effect 486
BOLTON, R. P., Discussion of Air Conditioning in the Bakery 159
BRADLEY, MR., Discussion of Welded Piping for Building Heating Systems 216
BREWSTER, D. R., Air Conditioning as Applied to Furniture, Fixtures and Other Interior Woodwork 131
Discussion 139
BUENGER, ALBERT, Discussions on Noise and Ventilation 111
Some Studies on the Absorption of Noise in Ventilating Ducts 125
Building Construction, Air Leakage Through Various Forms of, by F. C. HOUGHTEN, CARL GUTBERLET AND C. A. HERBERT 177
Discussion 185
Building Heating Systems, Welded Piping for, F. G. OUTCALT 205
Discussion 212
BUMGARDNER, H. E., Discussion of Smoke and Dust Abatement 257

C

CAMPBELL, E. K., Discussions on Heating Effect of Radiators 63
Essential Elements for Determining Heating Plant Requirements 473
CANDEE, A. H., Air Conditioning for Railway Passenger Cars 161
Discussion 175
Capacity of Return Risers for Steam and Vapor Heating Systems, by F. C. HOUGHTEN AND CARL GUTBERLET 189
Discussion 202
CARRIER, W. H., Discussions on Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam 45
Heating Effect of Radiators 63
Air Conditioning in the Bakery 159
Air Conditioning for Railway Passenger Cars 175
Air Pollution from the Engineer's Standpoint 230
Friction Heads in One-Inch Standard Cast-Iron Tees 404
Essential Elements for Determining Heating Plant Requirements 473
Cast-Iron Tees, Friction Heads in One-Inch Standard, by F. E. GIESECKE AND W. H. BADGETT 395
Discussion 401
CHALLMAN, S. A., Discussion of Noise Reduction in Ventilating Units 101
Code for Testing and Rating Concealed Gravity Type Radiation (Steam Code), Standard 367
Code for Testing Steam Heating Boilers Burning Oil Fuel, Standard 23
CONOVER, E. W., AND RANDALL, W. C., Predetermining the Airation of Industrial Buildings 605
Discussion 617
CONOVER, E. W., Discussion of Air Infiltration Through Double-Hung Wood Windows 601
Correlating Thermal Research, Technical Advisory Committee of 361
CROCKER, S., Discussion of Smoke and Dust Abatement 257

D

DAVIES, L. E., The Measurement of the Flow of Air Through Registers and Grilles 619
Discussion 628

PAGE

DAVIS, A. C., Development of the Ventilation System of the Holland Tunnel.... 67
Discussion 85
DAVIS, A. C., Discussion of Development of the Ventilation System of the Holland Tunnel 94
Development of the Ventilation System of the Holland Tunnel, by A. C. DAVIS.. 67
Discussion 85
DONNELLY, J. A., Discussion of Flow of Steam Through Orifices into Radiators 387
DUGAN, T. M., Discussion of Capacity of Return Risers for Steam and Vapor Heating Systems 202
DUNHAM, C. A., Using Gas-Vapor Mixtures for Heating Purposes..... 447
Discussion 459
Dust Abatement, Smoke and, by M. D. ENGLE..... 233
Discussion 257

E

EASTWOOD, E. O., Discussion of Off-Peak System of Electric Heating for Buildings 341
EDWARDS, J. D., Discussions on Some Studies on the Absorption of Noise in Ventilating Ducts 129
Air Conditioning as Applied to Furniture, Fixtures and Other Interior Woodwork 140
Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces 299
Effect on Film Conductance, Wind Velocity Gradients Near a Surface and Their, by F. C. HOUGHTEN AND PAUL MCDERMOTT..... 301
Discussion 322
Electric Heating for Buildings, Off-Peak System of, by ELLIOTT HARRINGTON.. 323
Discussion 333
EMSWILER, J. E., Discussion of Predetermining the Airation of Industrial Buildings 617
ENGER, M. L., Discussion of Friction Heads in One-Inch Standard Cast-Iron Tees 401
Engineer's Standpoint, Air Pollution from the, by H. B. MELLER..... 217
Discussion 228
ENGLE, M. D., Smoke and Dust Abatement..... 233
Discussion 257
Essential Elements for Determining Heating Plant Requirements, by F. B. ROWLEY 461
Discussion 473
EVANS, E. C., Discussions on Air Pollution from the Engineer's Standpoint..... 229
Essential Elements for Determining Heating Plant Requirements..... 474
EWALD, WARREN, Noise Reduction in Ventilating Units..... 97
Discussion 101
Exhaust Steam, Heating with, by PERRY WEST..... 345
Discussion 354
Experiments to Determine Heating Effect Factor, by R. N. TRANE AND C. J. SCANLAN 489
Discussion 502

F

FAHNESTOCK, M. K., AND KRATZ, A. P., Steam Condensation an Inverse Index of Heating Effect..... 475
Discussion 484
FAHNESTOCK, M. K., Discussion of Heating Effect of Radiators..... 57
FIELDNER, A. C., Discussion of Development of the Ventilation System of the Holland Tunnel 85

XUM

PAGE

FITTS, J. C., Discussion of Welded Piping for Building Heating Systems..... 215
FLEISHER, W. L., Air Conditioning in the Bakery..... 141
Discussion 159
FLEISHER, W. L., Discussions on Essential Elements for Determining Heating Plant Requirements 473
Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems 564
Flow of Steam Through Orifices into Radiators, by S. S. SANFORD AND C. B. SPRENGER 371
Discussion 387
FORSYTHE, W. E., Discussion of Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperatures..... 282
FRANKLIN, R. S., Discussion of Sizing Pipes and Orifices for Gravity Hot Water Heating Systems 446
FRENCH, D. E., Discussion of Heating Effect of Radiators..... 62
Friction Heads in One-Inch Standard Cast-Iron Tees, by F. E. GIESECKE AND W. H. BADGETT 395
Discussion 401
FROST, R. V., Heating Effect of Radiators 47
Discussion 57
FROST, R. V., Discussions on Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam..... 45
Heating Effect of Radiators..... 61
Experiments to Determine Heating Effect Factor..... 507
Furniture, Fixtures and Other Interior Woodwork, Air Conditioning as Applied to, by D. R. BREWSTER..... 131
Discussion 139

G

Garage Ventilation, Technical Advisory Committee on..... 14
GIESECKE, F. E., AND BADGETT, W. H., Friction Heads in One-Inch Standard Cast-Iron Tees 395
Discussion 401
GREEN, L. A., Discussion of Welded Piping for Building Heating Systems..... 215
Energy Radiated from Metallic Surfaces at High Temperatures, Spectral Distribution of the, G. R. GREENSLADE..... 263
Discussion 282
GREENSLADE, G. R., Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperatures..... 263
Discussion 282
GREGG, J. L., Discussions on Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperature..... 282
Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces 296
GUTBERLET, CARL, HERBERT, C. A., AND HOUGHTEN, F. C., Air Leakage Through Various Forms of Building Construction..... 177
Discussion 185
GUTBERLET, CARL, AND HOUGHTEN, F. C., Capacity of Return Risers for Steam and Vapor Heating Systems 189
Discussion 202

H

HAAR, S., Discussion of Off-Peak System of Electric Heating for Buildings.... 333
HARDING, L. A., Discussions on Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam..... 45
Capacity of Return Risers for Steam and Vapor Heating Systems..... 202
Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperature 283

PAGE

Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces 298
Wind Velocity Gradients Near a Surface and Their Effect on Film Conductance 322
Predetermining the Airation of Industrial Buildings 618
HARRINGTON, ELLIOTT, Off-Peak System of Electric Heating for Buildings 323
Discussion 333
HARRINGTON, E., Discussion of Steam Condensation an Inverse Index of Heating Effect 486
HART, H. M., Discussion of Capacity of Return Risers for Steam and Vapor Heating Systems 203
Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems, by F. C. HOUGHTEN, W. W. TEAGUE, W. E. MILLER AND W. P. YANT 541
Discussion 564
Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam, by A. C. WILLARD AND A. P. KRATZ 33
Discussion 43
Heating Effect Factor, Experiments to Determine, by R. N. TRANE AND C. J. SCANLAN 489
Discussion 502
Heating Effect of Radiators, by R. V. FROST 47
Discussion 57
Heating Plant Requirements, Essential Elements for Determining, by F. B. ROWLEY 461
Discussion 473
Heating with Exhaust Steam, by PERRY WEST 345
Discussion 354
Heat Transmission, Technical Advisory Committee on 357
HENDERSON, Y., Discussion of Development of the Ventilation System of the Holland Tunnel 87
HERBERT, C. A., HOUGHTEN, F. C., AND GUTBERLET, CARL, Air Leakage Through Various Forms of Building Construction 177
Discussion 185
HERSHEY, A. E., Discussion of Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperatures 282
HOLBROOK, DEAN, Discussion of Air Pollution from an Engineer's Standpoint 232
Holland Tunnel, Development of the Ventilation System of the, by A. C. DAVIS 67
Discussion 85
Hot Water Heating Systems, Sizing Pipes and Orifices for Gravity, by E. G. SMITH 405
Discussion 443
HOUGHTEN, F. C., GUTBERLET, CARL, AND HERBERT, C. A., Air Leakage Through Various Forms of Building Construction 177
Discussion 185
HOUGHTEN, F. C., AND GUTBERLET, CARL, Capacity of Return Risers for Steam and Vapor Heating Systems 189
Discussion 202
HOUGHTEN, F. C., AND MCDERMOTT, PAUL, Wind Velocity Gradients Near a Surface and Their Effect on Film Conductance 301
Discussion 322
HOUGHTEN, F. C., TEAGUE, W. W., MILLER, W. E., AND YANT, W. P., Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems 541
Discussion 564
HOUGHTEN, F. C., Discussion of Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam 43
HOWATT, JOHN, Discussion of Noise Reduction in Ventilating Units 102
Welded Piping for Building Heating Systems 213
HYNES, L. P., Discussion of Off-Peak System of Electric Heating for Buildings 337

PAGE

I

Index of Heating Effect, Steam Condensation an Inverse, by A. P. KRATZ AND M. K. FAHNESTOCK 475
Discussion 484
Infiltration in Buildings, Technical Advisory Committee on 359
Infiltration, Technical Advisory Committee on 17
INGELS, MARGARET, Discussion of Air Leakage Through Various Forms of Building Construction 185
In Memoriam 632
Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces, by L. W. SCHAD 285
Discussion 296

J

JENNINGS, DR., Discussion of Air Pollution from the Engineer's Standpoint 231
JONES, E. A., Discussion of Air Pollution from the Engineer's Standpoint 229

K

KATZ, S. H., Discussion of Development of the Ventilation System of the Holland Tunnel 88
KIMBALL, H. H., Discussion of Air Pollution from the Engineer's Standpoint ... 228
KLOCKAU, W. F., Discussion of Study of Performance Characteristics of Oil Burners and Low-Pressure Heating Boilers 539
KRATZ, A. P., AND WILLARD, A. C., Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam 33
Discussion 43
KRATZ, A. P., AND FAHNESTOCK, M. K., Steam Condensation an Inverse Index of Heating Effect 475
Discussion 484
KRATZ, A. P., Discussions on Heating Effect of Radiators 57
Some Studies on the Absorption of Noise in Ventilating Ducts 126
Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperatures 282
Essential Elements for Determining Heating Plant Requirements 473
Experiments to Determine Heating Effect Factor 502
KUBASTA, R. W., LARSON, G. L., AND NELSON, D. W., Air Infiltration Through Double-Hung Wood Windows 571
Discussion 600

L

LANGENBERG, E. B., Discussion of Some Studies on the Absorption of Noise in Ventilating Ducts 129
LARSON, G. L., AND NORRIS, R. F., Some Studies on the Absorption of Noise in Ventilating Ducts 113
Discussion 125
LARSON, G. L., NELSON, D. W., AND KUBASTA, R. W., Air Infiltration Through Double-Hung Wood Windows 571
Discussion 600
LAUGHBOROUGH, W. K., Discussion of Air Conditioning as Applied to Furniture, Fixtures and Other Interior Woodwork 139
LEAVER, R. J., Discussion of Predetermining the Airation of Industrial Buildings 617
LENT, L. B., Discussion of Air Leakage Through Various Forms of Building Construction 186

PAGE

LEWIS, S. R., Discussion of Steam Condensation an Inverse Index of Heating Effect 484
LUCE, G. D., Discussion of Welded Piping for Building Heating Systems..... 214
LYON, P. S., Discussion of Off-Peak System of Electric Heating for Buildings 335

M

MAITS, C. B., Discussion of Air Pollution from the Engineer's Standpoint..... 228
MCCAULLY, W. H., Discussion of Welded Piping for Building Heating Systems 215
MCCONNELL, W. J., Discussion of Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems..... 566
MCDERMOTT, PAUL, AND HOUGHTEN, F. C., Wind Velocity Gradients Near a Surface and Their Effect on Film Conductance..... 301
Discussion 322
MCINTIRE, J. F., Discussion of Steam Condensation an Inverse Index of Heating Effect 487
Measurement of Air Flow Through Registers and Grilles, Technical Advisory Committee on 18, 360
Measurement of the Flow of Air Through Registers and Grilles, The, by L. E. DAVIES 619
Discussion 628
MEIER, K., Discussion of Experiments to Determine Heating Effect Factor.... 513
MELLER, H. B., Air Pollution from the Engineer's Standpoint..... 217
Discussion 228
MELLER, H. B., Discussion of Smoke and Dust Abatement..... 260
Memoriam, In 632
MENSING, F. D., Discussion of Using Gas-Vapor Mixtures for Heating Purposes 460
Steam Condensation an Inverse Index of Heating Effect..... 486
MILLER, R. A., Discussion of Heating Effect of Radiators..... 65
MILLER, W. E., YANT, W. P., HOUGHTEN, F. C., AND TEAGUE, W. W., Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems 541
Discussion 564
Mixtures for Heating Purposes, Using Gas-Vapor, by C. A. DUNHAM..... 447
Discussion 459
MORGAN, R. C., Discussion of Capacity of Return Risers for Steam and Vapor Heating Systems 203

N

NELSON, D. W., KUBASTA, R. W., AND LARSON, G. L., Air Infiltration Through Double-Hung Wood Windows..... 571
Discussion 600
NELSON, D. W., Discussion of Air Leakage Through Various Forms of Building Construction 187
NICHOLLS, P., Discussions on Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam..... 44
Air Pollution from the Engineer's Standpoint..... 230
Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces 298
NOBIS, H. M., Discussions on Welded Piping for Building Heating Systems.... 215
Air Pollution from the Engineer's Standpoint..... 230
Noise and Ventilation, by G. T. STANTON..... 104
Discussion 111
Noise in Ventilating Ducts, Some Studies on the Absorption of, by G. L. LARSON AND R. F. NORRIS..... 113
Discussion 125

XUM

PAGE

Noise Reduction in Ventilating Units, by WARREN EWALD 97
Discussion 101
NORRIS, R. F., AND LARSON, G. L., Some Studies on the Absorption of Noise in Ventilating Ducts 113
Discussion 125

O

OBERT, C. W., Discussion of Welded Piping for Building Heating Systems 214
Heating with Exhaust Steam 354
Off-Peak System of Electric Heating for Buildings, by ELLIOTT HARRINGTON ... 323
Discussion 333
Oil and Gas Burning Devices, Technical Advisory Committee on 361
Oil Burners and Low-Pressure Heating Boilers, Study of Performance Characteristics of, by L. E. SEELEY AND E. J. TAVANLAR 517
Discussion 539
OUTCALT, F. G., Welded Piping for Building Heating Systems 205
Discussion 212

P

PENNEY, MR., Discussion of Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces 300
Pipe and Tubing (Sizes) Carrying Low Pressure Steam or Hot Water, Technical Advisory Committee on 358
Pipe Sizes for Steam and Hot Water Systems, Technical Advisory Committee on 13
POSEY, G. A., Discussion of Development of the Ventilation System of the Holland Tunnel 88
Predetermining the Airation of Industrial Buildings, by W. C. RANDALL AND E. W. CONOVER 605
Discussion 617
Program, Annual Meeting, Thirty-seventh 20
Semi-Annual Meeting, Thirty-seventh 365

Q

QUEER, E. R., Discussions on Heating Effect of Radiators 64
Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces 297

R

Radiation (Steam Code), Code for Testing and Rating Concealed Gravity Type 367
Radiation, Technical Advisory Committee on 16, 359
Radiators, Heating Effect of, by R. V. FROST 47
Discussion 57
RAGSDALE, MR., Discussion of Air Conditioning for Railway Passenger Cars 175
Railway Passenger Cars, Air Conditioning for, by A. H. CANDEE 161
Discussion 175
RANDALL, W. C., AND CONOVER, E. W., Predetermining the Airation of Industrial Buildings 605
Discussion 617
RANDALL, W. C., Discussion of Air Infiltration Through Double-Hung Wood Windows 600
Registers and Grilles, The Measurement of the Flow of Air Through, by L. E. DAVIES 619
Discussion 628
REID, H. P., Discussion of Some Studies on the Absorption of Noise in Ventilating Ducts 128

PAGE

Report of Certified Public Accountant 6
Committee on Research 11, 357
Council 1
Director 13
Finance 5
Guide Publication Committee 5
Research Laboratory, A.S.H.V.E. 357
Secretary 2
Technical Advisory Committee on Radiation 361
Air Conditions in Relation to Comfort and Health 362
Tellers of Election 4
Research Laboratory, Report of the A.S.H.V.E. 357
REYNOLDS, H. B., Discussion of Smoke and Dust Abatement 261
RICE, G. S., Discussion of Development of the Ventilation System of the Holland Tunnel 89
ROEMER, J., Discussion of Welded Piping for Building Heating Systems 215
ROTTMAYER, S. I., Discussions on Some Studies on the Absorption of Noise in Ventilating Ducts 126
The Measurement of the Flow of Air Through Registers and Grilles 628
ROWE, W. A., Discussion of Noise Reduction in Ventilating Units 102
ROWLEY, F. B., Essential Elements for Determining Heating Plant Requirements 461
Discussion 473
ROWLEY, F. B., Discussions on Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperatures 283
Steam Condensation an Inverse Index of Heating Effect 485

S

SANFORD, S. S., AND SPRENGER, C. B., Flow of Steam Through Orifices into Radiators 371
Discussion 387
SANFORD, S. S., Discussion of Steam Condensation an Inverse Index of Heating Effect 485
SAYERS, R. R., Discussion of Development of the Ventilation System of the Holland Tunnel 93
SCANLAN, C. J., AND TRANE, R. N., Experiments to Determine Heating Effect Factor 489
Discussion 502
SCHAD, L. W., Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces 285
Discussion 296
SCHAD, L. W., Discussion of Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam 44
SEELEY, L. E., AND TAVANLAR, E. J., Study of Performance Characteristics of Oil Burners and Low-Pressure Heating Boilers 517
Discussion 539
Semi-Annual Meeting, Thirty-seventh 355
Sizing Pipes and Orifices for Gravity Hot Water Heating Systems, by E. G. SMITH 405
Discussion 443
SMILLIE, R., Discussion of Development of the Ventilation System of the Holland Tunnel 91
SMITH, E. G., Sizing Pipes and Orifices for Gravity Hot Water Heating Systems 405
Discussion 443
SMITH, E. G., Discussion of Heating Effect of Radiators 59
Smoke and Dust Abatement, by M. D. ENGLE 233
Discussion 257

XUM

PAGE

Some Studies on the Absorption of Noise in Ventilating Ducts, by G. L. LARSON AND R. F. NORRIS 113
Discussion 125
Sound in Relation to Heating and Ventilation, Technical Advisory Committee on 361
Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperatures, by G. R. GREENSLADE 263
Discussion 282
SPRENGER, C. B., AND SANFORD, S. S., Flow of Steam Through Orifices into Radiators 371
Discussion 387
Standard Code for Testing and Rating Concealed Gravity Type Radiation (Steam Code), R. N. TRANE, Chairman 367
Standard Code for Testing Steam Heating Boilers Burning Oil Fuel, L. E. SEELEY, Chairman 23
STANTON, G. T., Noise and Ventilation 104
Discussion 111
Steam and Vapor Heating Systems, Capacity of Return Risers for, F. C. HOUGHTEN AND CARL GUTBERLET 189
Discussion 202
Steam Condensation an Inverse Index of Heating Effect, by A. P. KRATZ AND M. K. FAHNESTOCK 475
Discussion 484
Steam Through Orifices into Radiators, Flow of, by S. S. SANFORD AND C. B. SPRENGER 371
Discussion 387
STEINBERG, J. C., Discussion of Noise and Ventilation 111
STERN, A. C., Discussion of Smoke and Dust Abatement 261
STEVENSON, A. R., JR., Discussion of Off-Peak System of Electric Heating for Buildings 335
STILES, H. L., Discussion of Experiments to Determine Heating Effect Factor 511
Study of Methods of Evaluating the Efficiency of Air Cleaning Devices, Technical Advisory Committee of 16
Study of Methods of Testing Oil Burner Devices 18
Study of Performance Characteristics of Oil Burners and Low-Pressure Heating Boilers, by L. E. SEELEY AND E. J. TAVANLAR 517
Discussion 539
Study of the Application of Copper Tubing to Steam and Hot Water Heating Systems, Technical Advisory Committee 14
SULLIVAN, MR., Discussion of Welded Piping for Building Heating Systems 216
Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam, Heat Emission from the, by A. C. WILLARD AND A. P. KRATZ 33
Discussion 43
SWAIN, W. A., Discussion of Essential Elements for Determining Heating Plant Requirements 473
SZEKELY, E., Discussion of Some Studies on the Absorption of Noise in Ventilating Ducts 126

T

TALLMADGE, WEBSTER, Discussion of Flow of Steam Through Orifices into Radiators 389
TAVANLAR, E. J., AND SEELEY, L. E., Study of Performance Characteristics of Oil Burners and Low-Pressure Heating Boilers 517
Discussion 539
TEAGUE, W. W., MILLER, W. E., YANT, W. P., AND HOUGHTEN, F. C., Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems 541
Discussion 564

PAGE

The Measurement of the Flow of Air Through Registers and Grilles, by L. E. DAVIES ... 619
Discussion ... 628
Thirty-Seventh Annual Meeting, 1931 ... 1
TRANE, R. N., AND SCANLAN, C. J., Experiments to Determine Heating Effect Factor ... 489
Discussion ... 502
Transmission of Heat Through Building Construction and Building Materials, Technical Advisory Committee on ... 14

U

Using Gas-Vapor Mixtures for Heating Purposes, by C. A. DUNHAM ... 447
Discussion ... 459

V

Ventilating Units, Noise Reduction in, by WARREN EWALD ... 97
Discussion ... 101
Ventilation, Noise and, by G. T. STANTON ... 104
Discussion ... 111
Ventilation of Garage and Bus Terminals, Technical Advisory Committee on ... 358
VERMERE, E. J., Discussion of Experiments to Determine Heating Effect Factor 512
VOGEL, A., Discussion of Predetermining the Airation of Industrial Buildings .. 617

W

WABY, D. T., Discussion of Off-Peak System of Electric Heating for Buildings 333
WEBBER, J. T., Discussion of Study of Performance Characteristics of Oil Burners and Low-Pressure Heating Boilers ... 539
WEIXEL, A. L., Discussion of The Measurement of the Flow of Air Through Registers and Grilles ... 629
Welded Piping for Building Heating Systems, by F. G. OUTCALT ... 205
Discussion ... 212
WELLS, E. P., Discussion of The Measurement of the Flow of Air Through Registers and Grilles ... 630
WEST, PERRY, Heating with Exhaust Steam ... 345
Discussion ... 354
WEST, PERRY, Discussions on Sizing Pipes and Orifices for Gravity Hot Water Heating Systems ... 446
Using Gas-Vapor Mixtures for Heating Purposes ... 459
Flow of Steam Through Orifices into Radiators ... 393
WHITLOCK, E. H., Discussions on Air Pollution from the Engineer's Standpoint 229
Smoke and Dust Abatement ... 262
WILLARD, A. C., AND KRATZ, A. P., Heat Emission from the Surfaces of Cast Iron and Copper Cylinders Heated with Low Pressure Steam ... 33
Discussion ... 43
WILLARD, A. C., Discussions on Heating Effect of Radiators ... 57
Development of the Ventilation System of the Holland Tunnel ... 92
Some Studies on the Absorption of Noise in Ventilating Ducts ... 126
Spectral Distribution of the Energy Radiated from Metallic Surfaces at High Temperatures ... 283
Wind Velocity Gradients Near a Surface and Their Effect on Film Conductance ... 322
Friction Heads in One-Inch Standard Cast-Iron Tees ... 404
Experiments to Determine Heating Effect Factor ... 502
Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems ... 567
Wind Velocity Gradients Near a Surface and Their Effect on Film Conductance, by F. C. HOUGHTEN AND PAUL MCDERMOTT ... 301
Discussion ... 322

XUM

PAGE

WOOD, PROF., Discussion of Insulating Effect of Successive Air Spaces Bounded by Bright Metallic Surfaces 299
Wood Windows, Air Infiltration Through Double-Hung, G. L. LARSON, D. W. NELSON AND R. W. KUBASTA 571
Discussion 600

Y

YANT, W. P., HOUGHTEN, F. C., TEAGUE, W. W., AND MILLER, W. E., Heat and Moisture Losses from Men at Work and Application to Air Conditioning Problems 541
Discussion 564